REMARKS

Claim Amendments

As can be seen from above, claims 1, 6, 7, 15, 16, 22, 23 and 30 have been amended. Further, claims 30-45 have been canceled in connection with the restriction requirement discussed below.

The amendments to claims 1 and 16 is the same, and support for such amendments can be found as follows:

the steps of	Form amendment
melt spinning poly(trimethylene terephthalate) into fibers	Specification, page 11, lines 24-25
accumulating the fibers under conditions to produce an aged undrawn yarn	Specification, page 7, lines 16-27
prewetting ~~a~~ the aged undrawn yarn, said aged undrawn yarn consisting essentially of poly(trimethylene terephthalate), at a temperature less than about 45°C	Form amendment (antecedent basis, consistency)
drawing the ~~fiber~~ yarn under wet conditions at a temperature of from about 45°C to about 95°C in a first stage to a length of about 30 to about 90 percent of its final length; further drawing the ~~fiber~~ yarn in a second stage at a temperature from about 45°C to about 98°C under wet conditions; crimping the drawn ~~fiber~~ yarn; thermo-fixing the crimped ~~fiber~~ yarn in the presence of steam at a temperature from about 80°C to about 100°C; and drying the crimped ~~fiber~~ yarn at 60°C to 140°C	Form amendments (antecedent basis, consistency, clarity)

The amendments to claims 6, 7, 15, 22, 23 and 30 are made for consistency with amended claims 1 and 16, respectively.

The Applicants submit that these amendments add no "new matter" to the present application, and request that such amendments be entered into the record for further examination of this application.

The Applicants would note that all of the above amendments are made without prejudice of any sort to pursue the canceled claims/subject matter, or any other currently unclaimed subject matter in this application, in one or more continuing/divisional applications.

Restriction Requirement

The Applicants hereby confirm the provisional election to prosecute the subject matter of the Group I claims (claims 1-30) in this application.

As mentioned above, the Group II claims (claims 31-45) have been canceled without prejudice of any sort in order to move the prosecution of this application forward.

Claim Rejections

Claims 1-30 of this application stand rejected on various grounds. The Applicants traverse these rejections and submit that the subject matter of claims 1-30 is in fact patentable over the art of record.

(i) Anticipation Rejection

First, claims 16-30 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by the disclosure of Casey et al (WO01/68962).

As is well established, anticipation requires the presence in a single prior art reference of each and every claim limitation arranged as set forth in the claims. The Applicants submit that the fair disclosure of Casey et al is not sufficient to support an anticipation rejection of the present claims.

The invention of claims 16-30 is, on a broad basis (paraphrased), a process for producing a 1-6 dpf textile staple fiber comprising the following steps:

(1) melt spinning a PTT fiber;

(2) **accumulating the melt spun fibers under condition so as to result in an aged undrawn yarn;**

(3) prewetting the undrawn aged PTT yarn at a temperature of less than about 45°C;

(4) drawing the prewetted PTT yarn **under wet conditions** at a temperature of from about 45°C to about 95°C in a first stage to a length of about 30 to about 90 percent of its final length;

(3) further drawing the partially drawn PTT yarn in a second stage at a temperature from about 45°C to about 98°C **under wet conditions;**

(4) crimping the drawn yarn;

(5) thermo-fixing the crimped yarn in the presence of steam at a temperature from about 80°C to about 100°C; and

(6) drying the crimped yarn at 60°C to 140°C.

As discussed throughout the present application, the problem addressed by the invention is how to overcome processing problems **on a commercial scale** when drawing aged undrawn PTT fibers (see. e.g., lines 18-28 on page 2, and lines 16-27 on page 7, of the specification). Commercial scale PTT processes normally result in aged PTT fibers because of the processing time to collect sufficient tow cans of PTT fiber for running through the drawing steps. Aging causes the PTT fibers to shrink and become brittle.

There are known ways to address this shrinking (aging) issue. For example, instead of ultimately collecting the spun PTT in tow cans, it is known to collect the fibers on takeup reels or similar devices, and to feed the so-collected PTT fibers directly into the drawing process. In this case the fibers are maintained in an effectively tensioned state, thus not allowed to significantly relax (and shrink), and thus would not be aged undrawn yarn within the meaning of the present invention. While useful, this means for controlling the problem is not practical at commercial spinning speeds and under other commercial conditions.

Another way to control the shrinkage and aging is disclosed, for example, in Casey et al, which describes cooling the spun fibers at some point (e.g., during the quenching process) prior to collection on takeup reels (under tension) and transfer in the tow cans (removal of tension), then preferably maintaining the collected fibers in a cooled, climate controlled room (see, e.g., the disclosure in Casey et al at lines 11-18 on page 3, and line 26 on page 10 though line 10 on page 11). Prior to removing the fibers from the cooled conditions, Casey et al recommends to to make sure the undrawn yarn is under uniform roll tension, with preconditioning prior to drawing occurring under tension as well. Again, while useful, all of the additional conditions for controlling the aging problem are not practical at commercial spinning speeds and under other commercial conditions.

Casey et al does indicated (lines 7-10 on page 11) that, "[e]ven if the PTT UDY shrinks it is possible to convert this UDY into a first grade commercial staple product during draw processing with minor impact on product quality". Casey et al, however, does not appear to teach specifically how to convert the shrunken (aged) PTT undrawn yarn into first grade product. In other words, Casey et al does not disclose what process conditions are necessary to control/adjust in order to draw aged undrawn PTT yarn. That is exactly the problem being addressed by the present invention.

The present invention, **when considered as a whole**, provides a combination of process conditions and steps that the Applicants have found effective to solve the problem. Admittedly, Casey et al generally discloses a number of these conditions and steps, but it is the claimed combination and totality of these conditions and steps which must be evaluated for patentability.

As applied to the anticipation rejection based on Casey et al, the Applicants would specifically note that, in addition to the prewetting step, the claimed process requires that both the first and second drawing stages be conducted under wet conditions as discussed in the present specification in, for example, the paragraph bridging pages 10-11 (and Figure 1), in lines 19-28 on page 12; lines 5-9 on page 13; and lines 10-20 on page 14.

Among other differences, Casey et al does not disclose that both drawing steps (when more than one drawing step is used) are conducted under "wet conditions" within the meaning of the presently claimed invention. While Casey et al does seem to disclose a prewetting step (last paragraph on page 11), with respect to the draw steps Casey et al only discloses that "the **initial draw point** of the UDY tow should occur under water..." (emphasis added). The seems to correspond to a "wet" first stage within the context of the present invention, but the wetting for the second stage as required by the present claims is totally absent.

As such, Casey et al does not disclose each and every limitation of claims 16-30, and does not satisfy the standard of anticipation. The Applicants, therefore, respectfully request withdrawal of this rejection.

(ii) First Obviousness Rejection

Claims 16-30 were further rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Casey et al.

As detailed above, one difference between the disclosure of Casey et al and the invention of claims 16-30 is the requirement of the claimed process that both the first and second drawing stages be conducted under wet conditions. It is also unclear whether or not Casey et al even discloses processing conditions specifically applied to aged undrawn PTT fibers as required by the present claims.

In order to arrive at the presently claimed invention, therefore, the disclosure of Casey et al must be modified, and there must exist some supportable reason, suggestion or motivation which would lead the person of ordinary skill in the art to modify the disclosure of the Casey et al reference in the manner required to arrive at the presently claimed invention. The mere fact that the prior art could be so modified does not make the modification obvious unless the prior art suggests the desirability of the modification. Such desirability, much less any reason, suggestion or motivation to do so, is nowhere to be found in the disclosure of the Casey et al reference (or the present record), and simply does not exist in fact.

As such, the Applicants submit that the obviousness rejection of claims 16-30 cannot be supported legally or factually based solely on the disclosure of Casey et al, and respectfully request withdrawal of such rejection.

(ii) Second Obviousness Rejection

Claims 1-15 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Casey et al, as applied to claims 16-30, and further in view of Hernandez et al (US2002/0071951A1).

The invention of claims 1-15 is similar to that of claims 16-30, except that the process of claims 1-15 is directed to the production of 6 to 25 dpf carpet staple fibers.

The differences between Casey et al and the invention of claims 16-30 is detailed above. As applied to claims 1-15, an additional difference exists in that Casey et al is not directed to making PTT carpet staple fibers of 6-25 dpf.

The Examiner cited Hernandez et al to fill in the gap in Casey et al with regard to making carpet staple fibers, contending that it would be obvious to make the higher dpf PTT staple fibers disclosed in Hernandez et al via the process disclosed in Casey et al. Whether or not this piece of the potential combination is supportable, the Applicants submit that no combination of Casey et al with Hernandez et al adds up to the presently claimed invention.

While Hernandez et al does disclose a number of process steps (but not all) that appear common to those in the presently claimed, Hernandez et al does not disclose any processing of aged undrawn PTT fibers, or even remotely address the problem of how to draw such fibers.

As mentioned above, the mere fact that the prior art could be modified or combined in a way to achieve the presently claimed invention (which in and of itself is in contention) does not make the modification/combination obvious unless the prior art suggests the desirability of the modification. Such desirability, much less any reason, suggestion or motivation to do so, is nowhere to be found in the disclosure of the Casey et al or Hernandez et al references (or the present record), and simply does not exist in fact.

Specifically, why would a person of ordinary skill in the art, faced with the problem of drawing aged undrawn PTT yarn (within the meaning of the present invention), refer to:

> Casey et al, which provides extensive direction on how to avoid aged undrawn PTT yarn (within the meaning of the present invention), and does not seem to provide coherent direction on how to deal with it,
>
> then refer to Hernandez et al which does not even address the issue of aged undrawn PTT yarn,

and combine those two disclosures in an attempt to achieve the presently claimed invention? The Applicants submit that, to the extent that the two disclosures can be combined, the re-

quired reason, suggestion or motivation to make the combination as currently claimed simply does not exist.

The Applicants, therefore, submit that Casey et al and Hernandez et al, whether considered singularly or in combination, cannot be combined in any way (supportable or otherwise) to achieve the presently claimed invention. As such, the current obviousness rejection cannot be supported factually or legally based on the current record, and the Applicants respectfully request withdrawal of the same.

(iv) Third Obviousness Rejection

Finally, all of claims 1-30 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Hernandez et al in combination with Vail (US3816486).

As discussed above, among other differences, Hernandez et al does not disclose a process for drawing aged undrawn PTT yarn. Vail (which is actually referenced in Hernandez et al), also does not disclose a process for drawing aged undrawn PTT yarn. Any combination of the two disclosures, consequently, cannot add up to the present claimed invention.

Further, there is no reason, suggestion or motivation in the current record which would lead a person of ordinary skill in the art to arrive at the presently claimed invention from the disclosures of Hernandez et al or Vail, whether those disclosures are considered singularly or in combination.

Considering the claimed subject matter as a whole, the current obviousness rejection based on a combination Hernandez et al and Vail cannot be supported factually or legally based on the current record, and the Applicants respectfully request withdrawal of the same.

Conclusion

In view of the above amendments and arguments, the Applicants submit that claims 1-30 are patentable over the art of record, and respectfully request allowance of the claims as currently pending and advancement of the present application to issue at the earliest possible date.

Respectfully submitted,

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